The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(Currently Amended)** A method of manufacturing an optical waveguide preform, said method comprising:

exposing a soot preform to an atmosphere including a chlorine-containing gas and thereby doping the soot preform with chlorine, wherein the absolute pressure of the atmosphere is substantially greater than 1.013×10^2 kPa and the mole percentage of chlorine present in the atmosphere is between about 20% and 40%.

2. **(Original)** The method of Claim 1 including, prior to said step of exposing the soot preform, inserting the soot preform into a consolidation furnace.

3. **(Original)** The method of Claim 1 including:

drying the soot preform prior to said step of exposing the soot preform; and

sintering the soot preform following said step of exposing the soot preform.

4. **(Canceled)**

5. **(Canceled)**

6. **(Original)** The method of Claim 1 wherein the weight percentage of chlorine present in the soot preform is greater than about 1%.

7. **(Original)** The method of Claim 1 wherein the weight percentage of chlorine present in the soot preform is between about 1.0% and 1.5 %.

8. **(Previously Presented)** The method of Claim 1 wherein the chlorine-containing gas is selected from the group consisting of $GeCl_4$, $SiCl_4$, Cl_2, CCl_4, $SOCl_2$, $POCl_3$ and combinations thereof.

9. **(Original)** The method of Claim 1 wherein the atmosphere is at a temperature of at least about 1000 °C.

10. **(Original)** The method of Claim 1 wherein the atmosphere is at a temperature of between about 1250 and 1350 °C.

11. **(Original)** The method of Claim 1 wherein the absolute pressure of the atmosphere is greater than about 2.026×10^2 kPa.

12. **(Original)** The method of Claim 1 wherein the absolute pressure of the atmosphere is between about 4.052×10^2 and 16.32×10^2 kPa.

13. **(Original)** The method of Claim 1 including exposing the soot preform to the atmosphere for a period of at least 60 minutes.

14. **(Original)** The method of Claim 1 including exposing the soot preform to the atmosphere for a period of between about 60 and 180 minutes.

15. **(Previously Presented)** The method of Claim 1 wherein the soot preform includes silica and an element selected from the group consisting of germanium, fluorine, boron, phosphorous, erbium, antimony, aluminum, and titanium.

16. **(Currently Amended)** The method of Claim 1 including forming the optical waveguide preform such that the optical waveguide preform includes an inner layer formed from the chlorine doped soot preform and an outer layer surrounding the inner layer, wherein:

the inner layer and the outer layer are formed of materials having different viscosities at drawing temperatures in the range of between about 1600 and 2150 °C; and

the chlorine doping improves viscosity matching ~~mismatch of the viscosities of~~ between the inner layer and the outer layer at said drawing temperatures as compared to a viscosity match between a corresponding inner layer and a corresponding outer layer of a like perform ~~with a non-chlorine doped~~ wherein the corresponding inner layer is not chlorine doped.

17. **(Previously Presented)** The method of Claim 16 wherein the inner layer includes silica and an element selected from the group consisting of germanium, fluorine, boron, phosphorous, erbium, antimony, aluminum and titanium.

18. **(Previously Presented)** The method of Claim 17 wherein the outer layer includes silica and an element selected from the group consisting of boron, phosphorous and fluorine.

19. **(Previously Presented)** A method of manufacturing an optical waveguide preform, said method comprising:

exposing a soot preform to an atmosphere including a chlorine-containing gas for a period of at least 60 minutes and thereby doping the soot preform with chlorine, wherein:

the absolute pressure of the atmosphere is substantially greater than 1.013×10^2 kPa;

the mole percentage of chlorine present in the atmosphere is greater than about 20%;

the weight percentage of chlorine present in the soot preform is greater than about 1%;

the chlorine-containing gas is selected from the group consisting of $GeCl_4$, $SiCl_4$, Cl_2, CCl_4, $SOCl_2$, $POCl_3$ and combinations thereof; and

the atmosphere is at a temperature of at least about 1000 °C.

20. **(Original)** The method of Claim 19 including, prior to said step of exposing the soot preform, inserting the soot preform into a consolidation furnace.

21. **(Original)** The method of Claim 19 including:

drying the soot preform prior to said step of exposing the soot preform; and

sintering the soot preform following said step of exposing the soot preform.

22. **(Original)** The method of Claim 19 wherein the mole percentage of chlorine present in the atmosphere is between about 20% and 40%.

23. **(Original)** The method of Claim 19 wherein the weight percentage of chlorine present in the soot preform is between about 1.0% and 1.5 %.

24. **(Original)** The method of Claim 19 wherein the atmosphere is at a temperature of between about 1250°C and 1350 °C.

25. **(Original)** The method of Claim 19 wherein the absolute pressure of the atmosphere is greater than about 2.6×10^2 kPa.

26. **(Original)** The method of Claim 19 wherein the absolute pressure of the atmosphere is between about 4.052×10^2 and 16.32×10^2 kPa.

27. **(Original)** The method of Claim 19 including exposing the soot preform to the atmosphere for a period of between about 60 and 180 minutes.

28. **(Previously Presented)** The method of Claim 19 wherein the soot preform includes silica and an element selected from the group consisting of germanium, fluorine, boron, phosphorous, erbium, antimony, aluminum, and titanium.

29. **(Currently Amended)** The method of Claim 19 including forming the optical waveguide preform such that the optical waveguide preform includes an inner layer

formed from the chlorine doped soot preform and an outer layer surrounding the inner layer, wherein:

the inner layer and the outer layer are formed of materials having different viscosities at drawing temperatures in the range of between about 1600 and 2150 °C; and

the chlorine doping improves viscosity matching ~~mismatch of the viscosities of~~ between the inner layer and the outer layer at said drawing temperatures as compared to a viscosity match between a corresponding inner layer and a corresponding outer layer of a like perform ~~with a non-chlorine doped~~ wherein the corresponding inner layer is not chlorine doped.

30. **(Previously Presented)** The method of Claim 29 wherein the inner layer includes silica and a material selected from the group consisting of germanium, fluorine, boron, phosphorous, erbium, antimony, aluminum, and titanium.

31. **(Previously Presented)** The method of Claim 30 wherein the outer layer includes silica and an element selected from the group consisting of boron, phosphorous and fluorine.

32. **(Canceled)**

33. **(Canceled)**

34. **(Canceled)**

35. **(Canceled)**

36. (**New**) A method of manufacturing an optical waveguide preform, said method comprising:

exposing a soot preform to an atmosphere including a chlorine-containing gas and thereby doping the soot preform with chlorine, wherein the absolute pressure of the

atmosphere is substantially greater than 2.026×10^2 kPa and the mole percentage of chlorine present in the atmosphere is between about 20% and 40%.

37. (**New**) A method of manufacturing an optical waveguide preform, said method comprising:

exposing a soot preform to an atmosphere including a chlorine-containing gas and thereby doping the soot preform with chlorine, wherein the absolute pressure of the atmosphere is substantially greater than 4.052×10^2 kPa and the mole percentage of chlorine present in the atmosphere is between about 20% and 40%.